

L1 ANSWER 198 OF 301 CA COPYRIGHT 2006 ACS on STN  
 AN 106:125030 CA  
 ED Entered STN: 17 Apr 1987  
 TI High-strength cement composition  
 IN Sakai, Etsuro; Shibayama, Yukio  
 PA Denki Kagaku Kogyo K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C04B028-02  
 ICI C04B028-02, C04B022-06, C04B024-22  
 CC 58-3 (Cement, Concrete, and Related Building Materials)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61178462	A2	19860811	JP 1985-19292	19850205
PRAI	JP 1985-19292		19850205		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61178462	ICM	C04B028-02
	ICI	C04B028-02, C04B022-06, C04B024-22
	IPCI	C04B0028-02 [ICM,4]; C04B0028-02 [ICI,4]; C04B0022-06 [ICI,4]; C04B0024-22 [ICI,4]

AB In a high-strength cement composition containing cement, ultrafine powder, high-performance water-reducing agent, and water, crushed opal-based siliceous rock, blast-furnace slag, or fly ash is used as the ultrafine powder and this reduces the shrinkage during its hardening. Thus, a test piece manufactured from a raw mix containing cement 80, fly ash (mean particle size 3.04 $\mu$ ) 20, sand 120, high-performance water-reducing agent 2, and water  $\geq$ 1 weight parts had compressive strength 1423 kg/cm<sup>2</sup> and hardening shrinkage 1.4%.  
 ST fly ash mortar hardening shrinkage; blast furnace slag mortar hardening shrinkage; silica powder mortar hardening shrinkage  
 IT Ashes (residues)  
 (coal fly, mortar from cement and, with low hardening shrinkage)  
 IT Mortar  
 (from cement with fly ash or siliceous rock or blast-furnace slag, with low hardening shrinkage)  
 IT Slags  
 (blast-furnace, mortar from cement and, with low hardening shrinkage)  
 IT 7631-86-9, Silica, uses and miscellaneous  
 RL: USES (Uses)  
 (powder, mortar from cement and, with low hardening shrinkage)

- Cement  
 - Fly ash (3.04  $\mu$ m mean particle size)  
 - water reducing agent  
 - water